Software Requirements Specification

for

Mental Health Tracker

Version 1.0 approved

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Revision History

Name	Date	Comments	Version
Team 8	30-08-2021	Initial draft of the Document	Version 1.0

1. Introduction

1.1 Purpose

The purpose of this document is to structure and give an elaborate description of the software required to develop a Mental Health Tracker. This software is being developed in order to switch the manual Mental Health Tracker to a more reliable, convenient and portable online system. Some of the basic functions the software should be capable of are: Tracking one's mood and giving appropriate recommendations to improve one's happiness quotient, providing a journal where one can pen down their feelings and connecting the user to a professional therapist of their choice.

This document outlines the purpose, features and constraints of the system. It will explain what the system will do, what the interfaces of the system are and how the system will interact with external stimuli.

1.2 Document Conventions

In this SRS document, the headings are written in Times New Roman, bold and sized 18, the sub-headings are written in Times New Roman, bold and sized 14, while the contents are written in Times New Roman and sized 12. Priorities for higher-level requirements are not assumed to be inherited by detailed requirements. Instead, every requirement statement is to have its own priority.

1.3 Intended Audience and Reading Suggestions

The intended audience of this document is all major stakeholders which include the development team, the project owner, the project customer, the senior project advisor, and anyone evaluating the project.
In case of any suggested changes on the requirements listed on this document should be included in the last version of it so it can be a reference to developing and validating teams

1.4 Product Scope

The Mental Health Tracker aims to help its users to increase their happiness quotient by analysing their current emotions. All the user has to do is answer a few simple questions that the application prompts and they would be supplied with powerful tips or suggestions for improving their mood.On a long term view, the user can also view the overall happiness state over the

course of a month / week, which might help them understand the progress they are making and motivate them to continue doing the same.
The application helps the user to connect with therapists to seek professional guidance.It also ensures that when the user is assigned a therapist, it would be a very comfortable journey for the user thereafter and thus it takes preferences from the user and displays the shortlisted profiles.
The users are also provided with the facility jot- down their thoughts/ feelings in a virtual diary which is perfectly secure.

1.5 References

- *Web application development standards. Web Application Development Standards - Web Site Information (CA Dept of Education). (2020, September 23). https://www.cde.ca.gov/re/di/ws/appdevstandards.asp.*
- *Spacey, J. (2017, May 24). 7 examples of software components. Simplicable. https://simplicable.com/new/software-components.*

2. Overall Description

2.1 Product Perspective

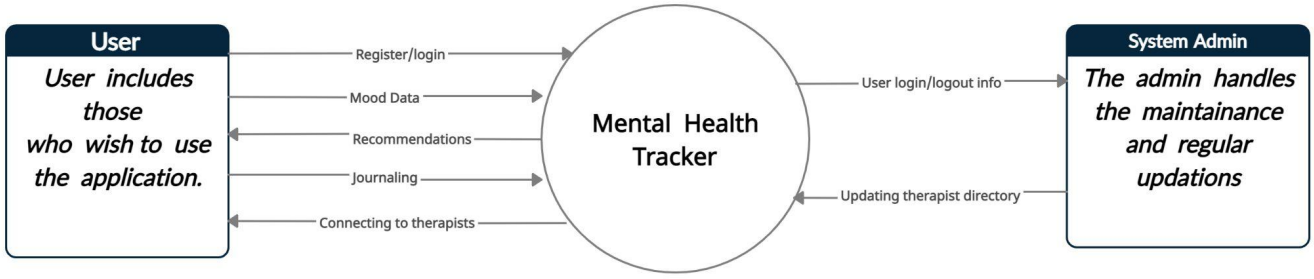
The Mental Health Tracker's primary objective is to provide recommendations so as to improve the user's mood. The user will also be able to contact the therapist of their choosing in case they require professional assistance. Furthermore, it offers a safe space for the users to pen down their thoughts and feelings.

2.2 Product Functions

The Mental Health Tracker's main functions are to:

- Collect information from the user through an interface, analyze the answers, find out a pattern in the data, map it to appropriate recommendations targeted to improve their mood and deliver it to the user.
- Provide a forum for the user to express their thoughts and feelings in a journal.
- Connect the user with a therapist of their choice to seek guidance, if necessary.

0 - Level Data Flow Diagram



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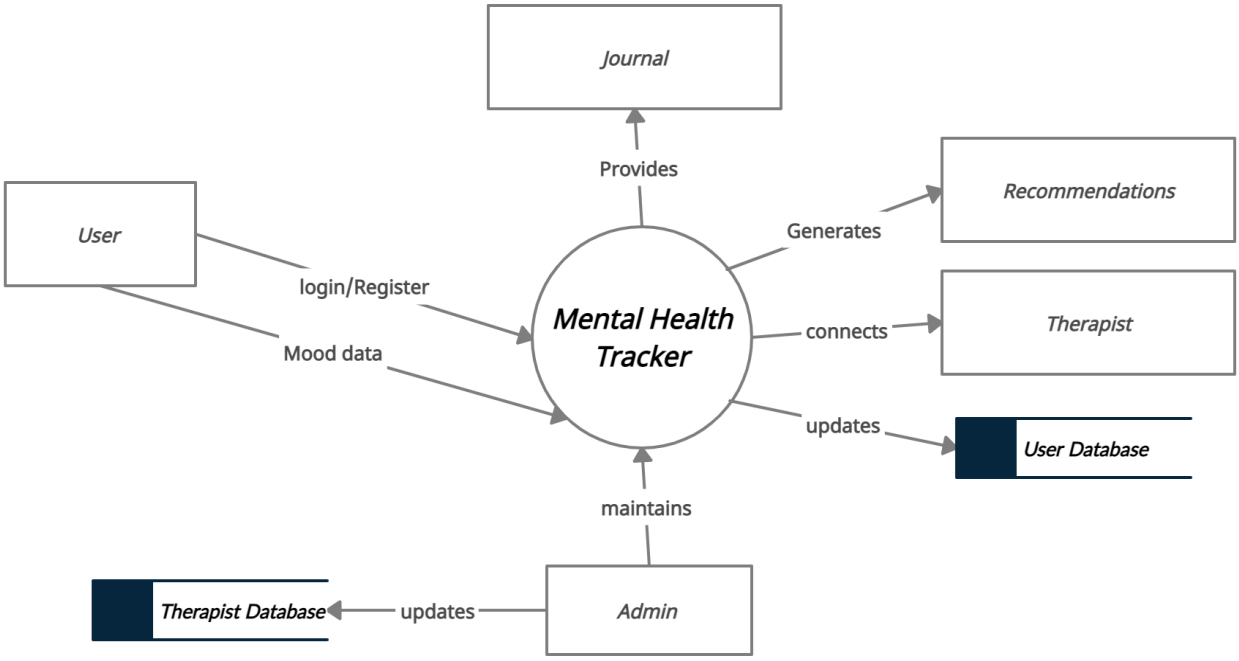

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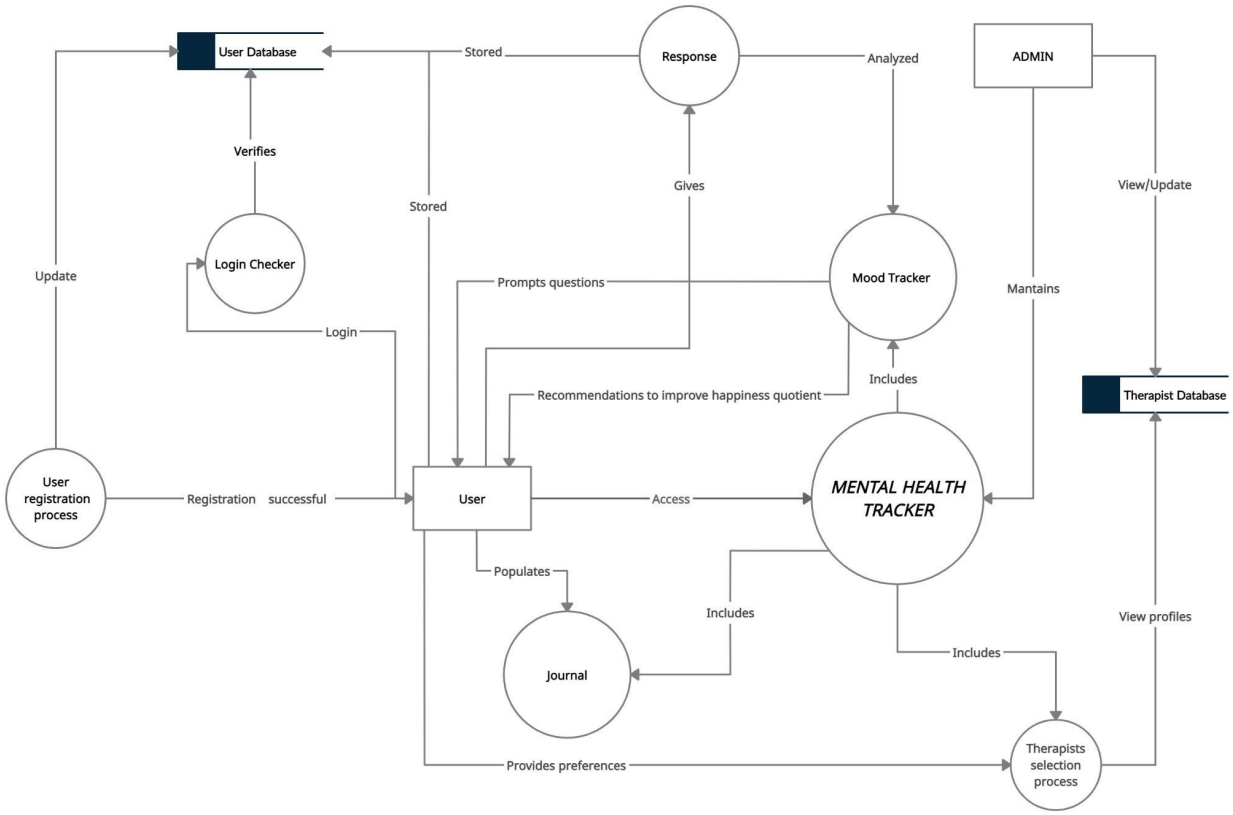


2.3 User Classes and Characteristics

- User:
  - The application functions around the goal to improve the happiness quotient of the user.
  - The user provides the system with data on their mood by responding to a simple set of questions prompted by the application.
  - It's up to the user to execute the suggestions provided to them.
  - The user can also diarize in the virtual available diary.
  - If the user wishes to connect to a therapist, they can do so by uploading their preferences.

- Admin:
  - The admin is responsible for maintaining the application.
  - Updating the therapist directory.
  - Ensure security to user data by enabling individual accounts.

2.4 Operating Environment

- The mental health tracker will run on Windows 8 or higher versions and a Mac OS.
- A strong internet connection is required.
- The database used is MongoDB.
- The application is based on ReactJS for the front-end and Django for the back-end.

2.5 Design and Implementation Constraints

2.5.1 Login credentials**:**

The users must login to the system for utilizing it's services. If the user credentials don't match with the one available in the database, the application notifies the user with a pop-up message to provide correct credentials.

2.5.2 Language:
The user should be able to understand and interpret english.

2.5.3 Internet speed:
Depending on the speed of the internet on the user's device the response of the application might vary.

2.5.4 Response to questions:
All questions must be compulsorily responded to, otherwise the system will not be able to provide appropriate feedback.

2.6 User Documentation

The application provides the users with a clear and descriptive guideline for an appealing user experience. Mental Health Tracker will include an FAQ or similar page that describes the application's terms, its functionality, and any other information deemed relevant to users. In case of further queries, the user shall contact the support team/helpline.

2.7 Assumptions and Dependencies

2.7.1 Genuine answering of questions:
When the application prompts the user to respond to questions regarding their mood, the user must ensure that their answers are sincere so that the recommendation system is not misled.

2.7.2 Availability of the therapist:
The system assumes that the therapist the user wishes to get support from is available.

2.7.3 Privacy:

The information that the user entrusts to the system will be protected from the applications end. Also, the system is not liable for the actions of the therapist.

3. External Interface Requirements

3.1 User Interfaces

This project is a web based application that is used for tracking the user's thoughts, it will be through this webapp that the users can access and/or modify any information in the database. The project utilises general web application standards and requires users to access the website through a browser. Some of the standards of the web applications includes the webapp being easy and intuitive to use, functions in a logical sequence for the convenience of the user, the style is consistent in the sense that punctuation and capitalization of text is standard.

There are a few buttons which will be available on all screens (except before login) which is a logout button. On all screens the seek help button will be visible so that the user can get information on any helplines in case of immediate danger and need of help. Once logged in the user will also be able to view each of the functions (mood tracker, journaling, dashboard, connecting with therapist) on their screen at all times in case they want to switch between sections. Upin trying to switch a standard error message is given so that they can confirm their progress has been updated or not. This is to prevent loss of any unsaved data on the webpage.

Front-end software: React

Back-end software: Django

Database : MongoDB

3.2 Hardware Interfaces

For the hardware requirements the SRS specifies the logical characteristics of each interface between the software product and the hardware components. It specifies the hardware requirements like memory restrictions, cache size, the processor, RAM size etc. that are required for the software to run. Moreover this web app requires the use of the internet. Hence any relevant hardware components that are required to facilitate an internet connection, like network interface cards, modem, WAN – LAN, Ethernet cross-cable should be available. We also require a browser which supports CGI, HTML & Javascript.

3.2.1 Minimum Hardware Requirements

1. Processor Pentium III
2. Hard disk drive 40 GB
3. RAM 128 MB
4. Cache 512 kb

3.2.2 Preferred Hardware Requirements

1. Processor Pentium IV
2. Hard disk drive 80 GB
3. RAM 256 MB
4. Cache 512 kb

3.3 Software Interfaces

This project is compatible with Windows, Mac and Linux operating systems. The following are the software components :

- The web app will communicate with the server database to identify all the validity of the user login or registration credentials
- The web app will communicate with the database to retrieve the users saved data as per their login credentials
- The web app will communicate with recommending resources to provide the user with tools that will complement the mood they are feeling
- The web app shall communicate with the therapists information section of the database to use the match to therapist based on category and preferences feature.

3.4 Communications Interfaces

This project supports all types of web browsers and the communication standard used will be http. The client-server communication architecture model is followed in the sense the client requests information from a database in the server in order for the client to view any information. Also, the internet communication will be through TCP/IP protocol suite.

4. System Features

4.1 Mood Tracker

4.1.1 Description and Priority

This feature tracks the mood of the user according to the answers provided to a set of questions asked.

Priority: High

4.1.2 Stimulus/Response Sequences

The user is asked a series of questions about how they are feeling right now. After answering those questions, the system analyzes the answers provided.

4.1.3 Functional Requirements

REQ-1: A PC or Laptop with Internet connection
REQ-2: Mandatory to attend all the questions asked to the user
REQ-3: User must have an account created

REQ-4: System should make sure that a question has been answered before moving on to the next one

4.2 Recommending activities to improve mood

4.2.1 Description and Priority

This feature suggests different activities a user can do to improve their mood.

Priority: High

4.2.2 Stimulus/Response Sequences

After answering the questions asked to the user about their current mood, the system analyzes the answers provided and suggests a series of activities according to the mood analyzed, so as to help improve the users mood.

4.2.3 Functional Requirements

REQ-1: A PC or Laptop with Internet connection

REQ-2: System should recommend appropriate activities according to the mood estimated

4.3 Journaling

4.1.1 Description and Priority

This feature lets a user write down their feelings, thoughts, daily goals, etc in a virtual journal.

Priority: High

4.1.2 Stimulus/Response Sequences

When a user wants to write down the thoughts in their head, he uses the journal writing feature to do so. Each entry is saved and protected.

4.1.3 Functional Requirements

REQ-1: A PC or Laptop with Internet connection

REQ-2: System should suggest ideas that can be written in a journal

REQ-3: System should auto-save the content written in an entry

4.4 Matching to therapist based on user preferences

4.1.1 Description and Priority

This feature lets the user to select their preferences in a therapist

Priority: High

4.1.2 Stimulus/Response Sequences

When a user thinks they might need professional help for their mental health, they can choose to connect with the therapists using this feature. The user enters gender, age and specialization preferences of a therapist that they are comfortable with. This would generate a list of therapists that satisfy their preferences given.

4.1.3 Functional Requirements

REQ-1: A PC or Laptop with internet connection

REQ-2: User should enter his answers to all the questions displayed

REQ-3: System should make sure that all questions has been answered

4.5 Display profiles of therapists

4.1.1 Description and Priority

This feature displays the profiles of therapists that match a user's preference.

Priority: High

4.1.2 Stimulus/Response Sequences

After the user enters gender, age and specialization preferences of a therapist that they are comfortable with, profiles of therapists with their contact details that match the user's preferences are displayed.

4.1.3 Functional Requirements

REQ-1: A PC or Laptop with internet connection

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- The application shall be based on the web and has to be run from a web server.
- The application shall take initial load time depending on internet connection strength which also depends on the media from which the application is run.
- If the system loses the connection to the Internet or the system gets some strange input, the user should be informed.
- The performance shall depend upon hardware components of the client/customer.

5.2 Safety Requirements

- Passwords will be saved encrypted in the database in order to ensure the user's privacy.
- The system will be protected against vulnerabilities.
- The database will be backed up to protect against crashes or attacks.

5.3 Security Requirements

- The system shall automatically log out all customers after a period of inactivity.
- The system shall not leave any cookies on the customer's computer containing any of the user's confidential information.
- The customer's web browser shall never display a customer's password. It shall always be echoed with special characters representing typed characters.
- The system's back-end servers shall never display a customer's password. The customer's password may be reset but never shown.

- The system's back-end servers shall only be accessible to authenticated administrators.

5.4 Software Quality Attributes

- Usability: The users shall be allowed to access the application using any device with a web browser. Since all users are familiar with general usage of a web browser, no special training is required.
- Availability: The system should be available at all times, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs. In case of a hardware failure or database corruption, a replacement page will be shown..
- Maintainability: The application should be easy to extend. The code should be written in a way that it favors implementation of new functions so that new features can be added easily.
- Reliability: The application should be 100% reliable since the application covers an important topic. The application should be available 7 days a week 24hours a day.

5.5 Business Rules

- The system must have at least an Admin and an User role defined for accessing and interacting with the system. The admin has overall control of the system and can perform operations that the users can't such as adding profiles of therapists.

6. Other Requirements

Appendix A: Glossary

CGI - Common Gateway Interface

FAQ - Frequently Asked Questions

HTML - HyperText Markup Language

IP - Internet Protocol

LAN - Local Area Network

PC - Personal Computer

RAM - Random Access Memory

REQ - Requirement

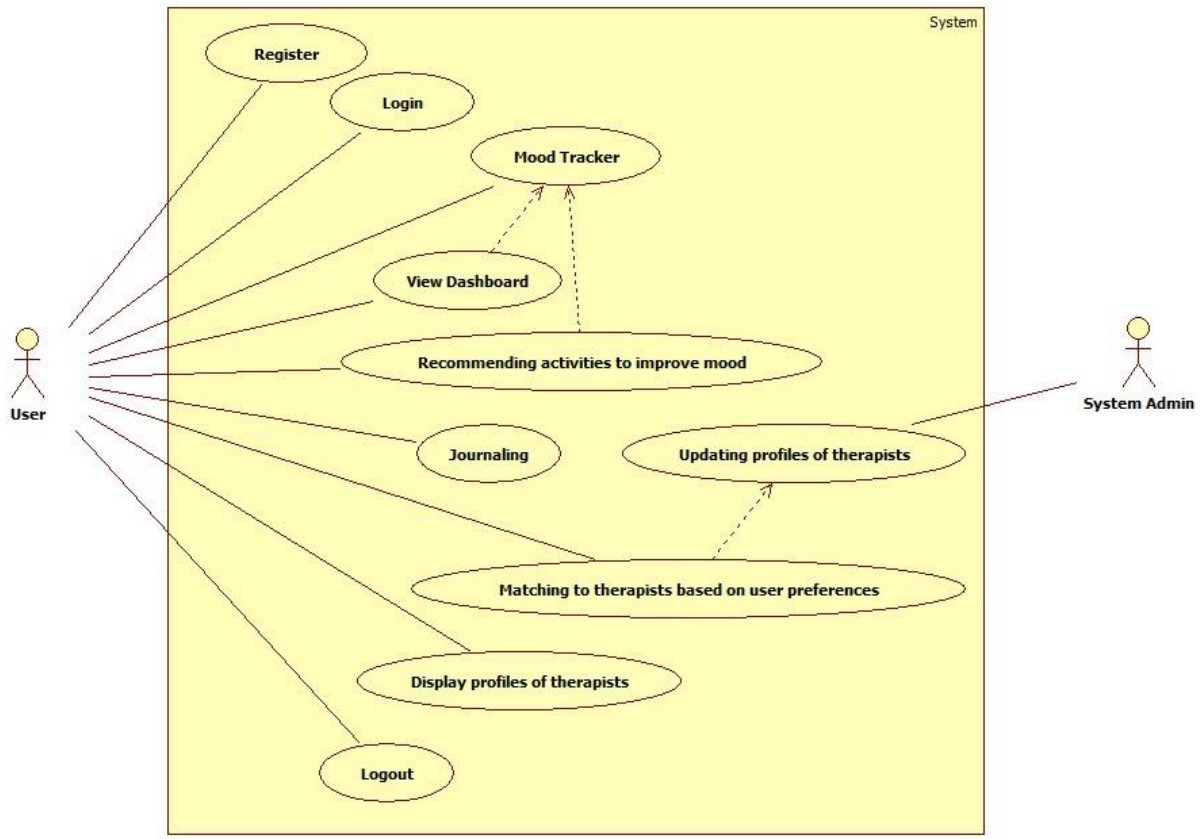
SRS - Software Requirement Specification

TCP - Transmission Control Protocol

WAN - Wide Area Network

Appendix B: Analysis Models

USE CASE DIAGRAM



Plagiarism Report: